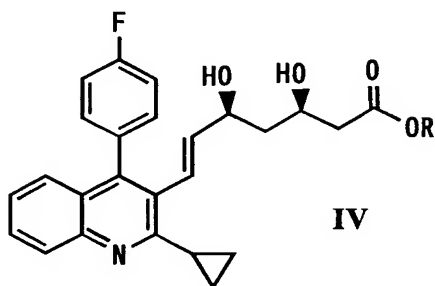


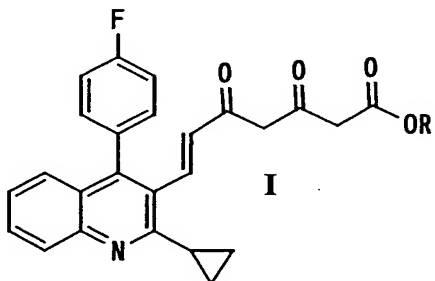
What is claimed is:

1. A process for producing a compound represented by the following formula (IV):



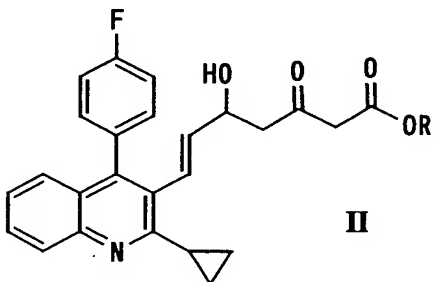
5 (wherein R denotes a hydrogen atom, an alkyl group, or an aryl group), comprising reducing a compound selected from the group consisting of:

a compound represented by the following formula (I):



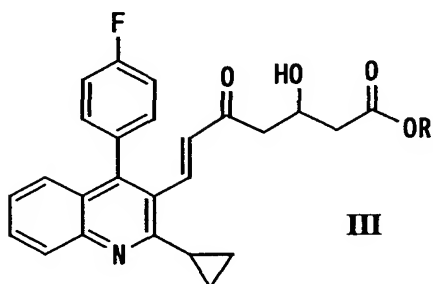
(wherein R is as defined in the formula);

10 a compound represented by the following formula (II):



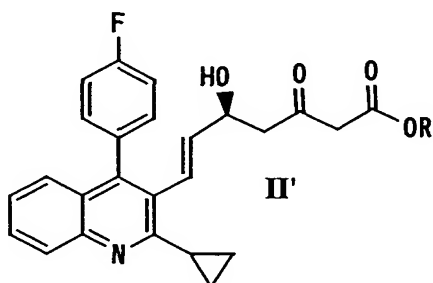
(wherein R is as defined in the formula); and

a compound represented by the following formula (III):

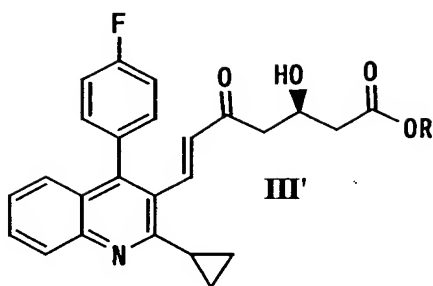


(wherein R is as defined in the formula), by reacting
 5 the compound with a cell of a microorganism and/or a
 cell preparation thereof capable of stereo-selectively
 reducing a keto group.

2. The process for producing a compound according
 to claim 1, wherein the compounds represented by the
 10 formulae (II) and (III) are optically active substances
 each represented by the following formula (II'):
 (wherein R is as defined in the formula),



and the following formula (III'):



(wherein R is as defined in the formula).

3. The process for producing a compound according to claim 2, wherein each of the compounds represented by the formula (II') and the formula (III') is obtained from the compound represented by the formula (I).

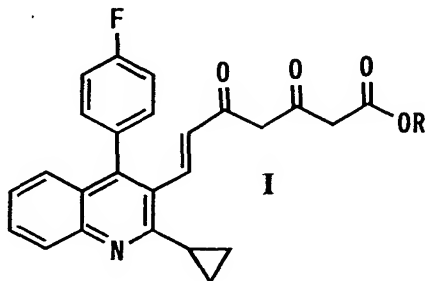
4. The process for producing a compound according to any one of claims 1 to 3, wherein the microorganism is selected from the group consisting of the genera *Metschnikowia*, *Cryptococcus*, *Candida*, *Filobasidium*, *Ogataea*, *Citeromyces*, *Yarrowia*, *Rhodotorula*, *Exophiala*, *Trigonopsis*, *Shizosaccharomyces*, *Wickerhamiella*, *Pichia*, *Saccharomycopsis*, *Saitoella*, *Saccharomyces*, *Rhodospiridium*, *Acinetobacter*, *Brevibacterium*, *Cellulomonas*, *Corynebacterium*, and genus *Curtobacterium*.

5. The process for producing a compound according to claim 4, wherein the microorganism is selected from the group consisting of the genera *Metschnikowia*, *Cryptococcus*, *Candida*, *Filobasidium*, *Ogataea*, *Citeromyces*, *Rhodotorula*, *Exophiala*, *Shizosaccharomyces*, *Wickerhamiella*, *Pichia*, *Saccharomycopsis*, *Saitoella*, *Saccharomyces*, *Rhodospiridium*, *Brevibacterium*, and

Corynebacterium.

6. The process for producing a compound according to claim 1, wherein the compound represented by the following formula (I):

5



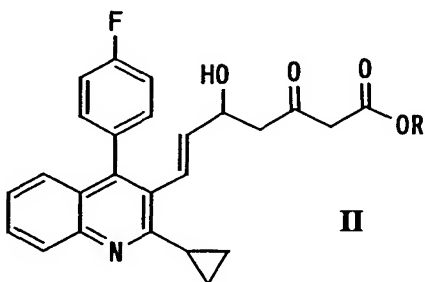
(wherein R is as defined in the formula) is reacted with the microorganism selected from the group consisting of the genera *Cryptococcus*, *Candida*, *Filobasidium*, *Ogataea*, *Yarrowia*, *Rhodotorula*, *Exophiala*, and *Trigonopsis*.

10

7. The process for producing a compound according to claim 6, wherein the microorganism is selected from the group consisting of the genera *Cryptococcus*, *Candida*, *Filobasidium*, *Ogataea*, and *Rhodotorula*.

8. The process for producing a compound according to any one of claims 1 to 3, wherein the compound represented by the following formula (II):

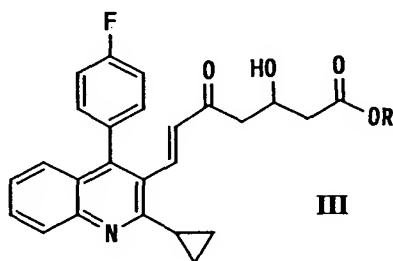
15



(wherein R is as defined in the formula) is reacted with the microorganism selected from the group consisting of the genera *Metschnikowia*, *Cryptococcus*, *Candida*,
 5 *Filobasidium*, *Ogataea*, *Citeromyces*, *Yarrowia*,
Rhodotorula, *Exophiala*, *Trigonopsis*, *Shizosaccharomyces*,
Wickerhamiella, *Saccharomycopsis*, *Saitoella*, *Pichia*,
Saccaromyces, *Rhodospiridium*, *Acinetobacter*,
Brevibacterium, *Cellulomonas*, *Corynebacterium*, and
 10 *Curtobacterium*.

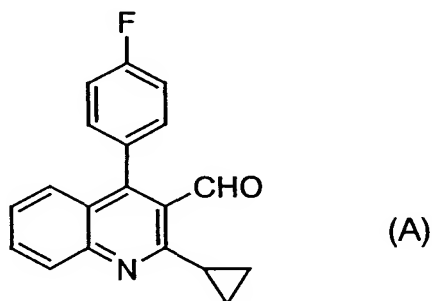
9. The process for producing a compound according to claim 8, wherein the microorganism is selected from the group consisting of the genera *Metschnikowia*,
Cryptococcus, *Candida*, *Filobasidium*, *Ogataea*,
 15 *Citeromyces*, *Rhodotorula*, *Shizosaccharomyces*,
Wickerhamiella, *Saccharomycopsis*, *Saitoella*, *Pichia*,
Saccharomyces, *Rhodospiridium*, *Brevibacterium*, and
Corynebacterium.

10. The process for producing a compound according to any one of claims 1 to 3, wherein the
 20 compound represented by the following formula (III):

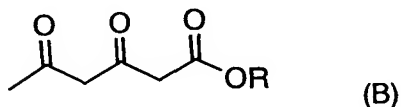


(wherein R is as defined in the formula) is reacted with the microorganism selected from the group consisting of the genera *Cryptococcus*, *Candida*, *Rhodotorula*, *Filobasidium*, and *Pichia*.

- 5 11. The process for producing a compound according to any one of claims 1 and 4 to 7, wherein the compound represented by the formula (I) is obtained by a condensation reaction between
2-cyclopropyl-4-(4-fluorophenyl) quinolin-3-carbaldehyde
10 represented by the following formula (A):



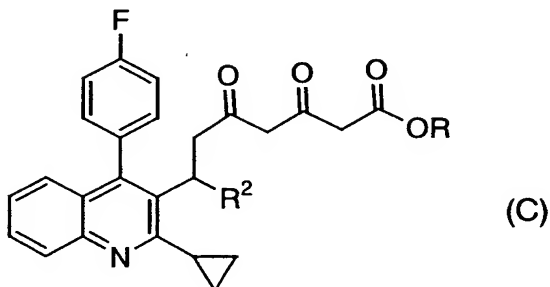
and a compound represented by the following formula (B):



(wherein R denotes a hydrogen atom, an alkyl group, an aralkyl group, or an aryl group).

- 15 12. The process for producing a compound according to claim 11, wherein when the compound represented by the formula (I) is produced by the condensation reaction between the compound represented by the formula (A) and the compound represented by the

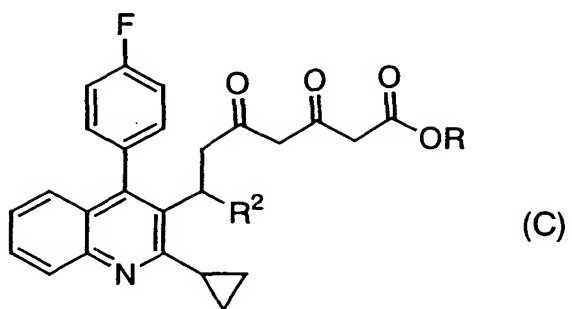
formula (B), a compound represented by the following
general formula (C):



(wherein R is as defined in the formula, and R² denotes
5 a hydroxyl group, a halogen group, a silyloxy group, a
sulfonyloxy group, an acyloxy group, an
alkoxycarbonyloxy group, an alkylthiocarbonyloxy group,
an alkoxythiocarbonyloxy group, or an
alkylthiothiocarbonyloxy group) or a salt thereof is
10 provided as an intermediate of the reaction.

13. The process for producing a compound
according to claim 12, wherein the compound represented
by the formula (I) is obtained by an elimination
reaction in which R² is removed from the intermediate of
15 the production represented by the formula (C).

14. A compound represented by the following
general formula (C):



(wherein each of R and R^2 is as defined in the formula).